

Appl. No. 10/762,676
Amdt. Dated November 30, 2005

Attorney Docket No. 81872.0055
Customer No.: 26021

Amendments to the Claims:

Please make revisions to the claims as follows:

1. (Currently Amended): A multicrystalline silicon substrate comprising:
a substrate of multicrystalline silicon having relatively large irregularities formed on a surface thereof ~~by etching with an alkaline aqueous solution~~; and
a multiplicity of relatively fine textures formed ~~by dry etching~~ over the relatively large irregularities,

wherein a ratio r expressed as $r=a/b$, which is the ratio between the length a of a virtual line connecting individual peaks of the relatively fine textures at a vertical cross section thereof and the length b of a straight line connecting the endpoints of the virtual line, is equal to or larger than 1 and smaller than 1.1.

2. (Original): The multicrystalline silicon substrate according to claim 1, wherein the fine textures have a height and a width of 2 μm or less, respectively.

3. (Original): The multicrystalline silicon substrate according to claim 1, wherein the fine textures have a height and a width of 1 μm or less, respectively.

4. (Original): The multicrystalline silicon substrate according to claim 1, wherein the fine textures have a height-to-width aspect ratio (height/width) of 2 or less.

5. (Withdrawn): A process for roughening a surface of a multicrystalline silicon substrate comprising the steps of:

etching a surface of a multicrystalline silicon substrate with an alkaline aqueous solution for forming relatively large textures having a surface area-to-planar surface area ratio R of larger than 1 and smaller than 1.1; and

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a dry etching step for forming a multiplicity of relatively fine textures over the relatively large irregularities.

6. (Withdrawn): The process for roughening a surface of a multicrystalline silicon substrate according to claim 5, wherein in the step of forming a multiplicity of relatively fine textures, a ratio r expressed as $r=a/b$, which is the ratio between the length a of a virtual line connecting individual peaks of the relatively fine textures at a vertical cross section thereof and the length b of a straight line connecting the endpoints of the virtual line, is equal to or larger than 1 and smaller than 1.1.

7. (New): The multicrystalline silicon substrate according to claim 1, wherein the relatively large irregularities are formed by etching with an alkaline aqueous solution.

8. (New): The multicrystalline silicon substrate according to claim 1, wherein the fine textures are formed by dry etching.

9. (New): A multicrystalline silicon substrate comprising:
a substrate of multicrystalline silicon having relatively large irregularities formed on a surface thereof; and
a surface area-to-planar surface area ratio R of the substrate being larger than 1 and smaller than 1.1.

10. (New): The multicrystalline silicon substrate according to claim 9, wherein a multiplicity of relatively fine textures are formed over the relatively large irregularities.

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11. (New): The multicrystalline silicon substrate according to claim 10, wherein a ratio r expressed as $r=a/b$, which is the ratio between the length a of a virtual line connecting individual peaks of the relatively fine textures at a vertical cross section thereof and the length b of a straight line connecting the endpoints of the virtual line, is equal to or larger than 1 and smaller than 1.1.

12. (New): The multicrystalline silicon substrate according to claim 9, wherein the relatively large irregularities are formed by etching with an alkaline aqueous solution.

13. (New): The multicrystalline silicon substrate according to claim 9, wherein the fine textures are formed by dry etching.

14. (New): A solar cell, comprising the multicrystalline silicon substrate according to claim 1, an antireflective film formed on a light receiving surface of the substrate, and a surface electrode formed on the light receiving surface of the substrate.

15. (New): A solar cell, comprising the multicrystalline silicon substrate according to claim 9, an antireflective film formed on a light receiving surface of the substrate, and a surface electrode formed on the light receiving surface of the substrate.